

February 2012 - Status Report of an IPY Legacy Project

The Tiksi Hydrometeorological Observatory

A Facility and a **Procedure** for Supporting Arctic Science in the Russian Arctic

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Contributions: The funding for the 2 buildings and tower were provided by NSF. Other contributions are color coded:

- Roshydromet
- NOAA
- FMI
- Multiple Contributors
- Sakha Republic
- NASA

Facility

- Complete
- Complete by end of 2012



Official Tiksi Observatory opening August 25, 2010



Equipment

- NASA AeroNET site (reporting)
- Surface/Upper Air Meteorology
- Snow Chemistry
- NOAA CRN site
- BSRN site (registered)
- Russian Radiation
- GAW site (end of FY2012)
 - GHG US Flask Sampling
 - GHG Russian Flask Sampling
- 20 m Surface Energy Balance Tower
- Aerosol Size Distributions
- Permafrost Active Layer
- Data Relevant to AMAP
 - Black Carbon
 - Methane
 - CO₂
 - POPS
 - Ozone
 - UV

- Housing on-site and in town of Tiksi
- Improved Road
- Improved Electrical Supply
- Satellite Communications/Internet
- Surveillance Cameras
- Staff

Documents

- Tiksi Science Proposal
- Tiksi Implementation Plan
- Clean Air Facility Requirements Plan
- Tiksi Science Plan
- Annual Roshydromet Science Reports
- Article (BAMS – by end of FY2012)

Procedures

- Shipping and Customs
- Visas (US and Russian)
- Russian Federation Data Permissions
- New Project Acceptance Procedure
- Training Programs
- Data Transfer (near real-time Tiksi-SPb-Boulder)
- Tiksi Data Center – Boulder
- Tiksi Data Center – St Petersburg
- US Engineering/Logistics Staff
- Russian Engineering/Logistics Staff
- Russian frontier permissions
- Facilitation of NSF Grant Activities (first project being implemented)

Policy Considerations

- NOAA Roshydromet bi-lateral MoU has had Activity 4.1 “Establish the Tiksi Hydrometeorological Observatory” as an objective for 6 years
- The US Russian Obama-Medvedev Climate Sub-Committee Project “Studies of CO2 and GHG at Tiksi, Barrow and the Russian Drifting Station” relies on the Tiksi partnership
- The NOAA-RAS bi-lateral MoU references Tiksi
- The Fifth U.S. Climate Action Report to the UN Framework Convention on Climate Change references Tiksi

Preliminary and Proposed Utilizations

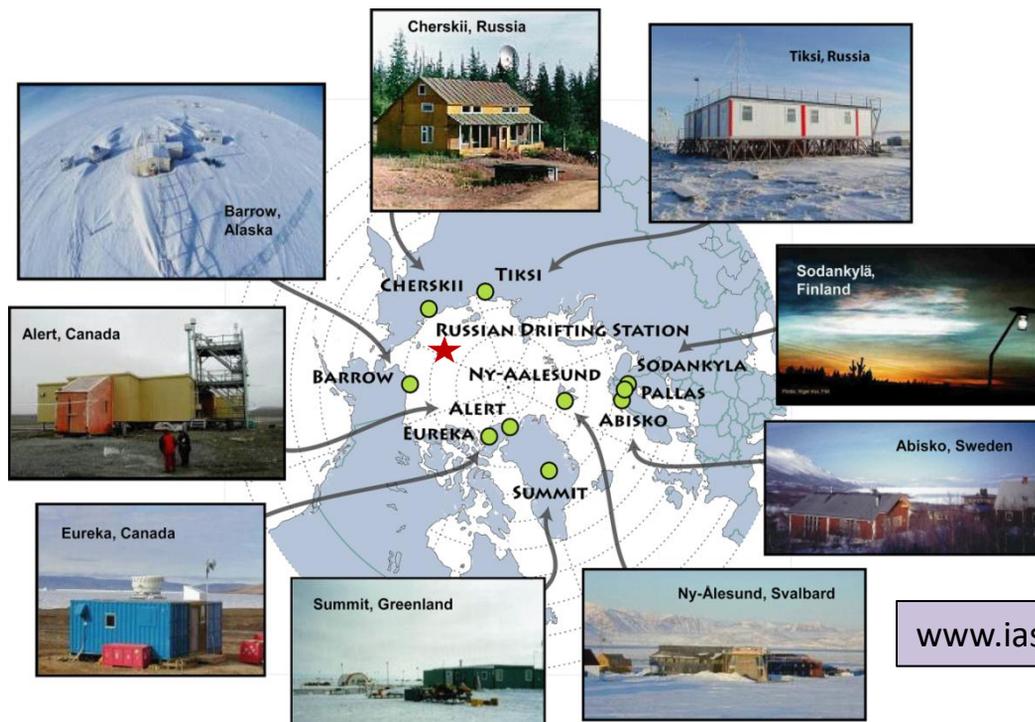
- Pan-Arctic studies of greenhouse gas issues such as surface sources of atmospheric methane
- Montreal IPY Knowledge to Action Atmospheric Session has ~150 abstracts, 17 on Tiksi
- NSF supported PI projects
- Support of EPA-DOE-NPS COP-15 Black Carbon Studies
- Proposals for new measurement programs (e.g. German ozone-sondes, Japanese isotope studies)
- Tiksi Summer Science School

Proposals for the 2012 NOAA-Roshydromet MoU Updates

- NOAA-Roshydromet bi-lateral Tiksi Activity: Revise “Establish” to “Operate”
- Include the US Russian Obama-Medvedev Climate Sub-Committee Project “Studies of CO2 and GHG at Barrow and the Russian Drifting Station” as a NOAA-Roshydromet MoU activity
- New NOAA-Roshydromet MoU Activity supporting IASOA with focus on Russian Drifting Station

NOTE: The NOAA-Roshydromet MoU activities are a portal for other U.S. agencies and University research projects

Tiksi is only one component of the IPY project International Arctic Systems for Observing the Atmosphere



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